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ABSTRACT

This paper reports the findings of an inquiry into the role of visual arts in early childhood education. The inquiry consisted of three parts: (1) a review of documented practices of and literature about art in early childhood education; (2) a field study that investigated the place of art activities in 10 preschool and nursery school settings in the Milwaukee, Wisconsin area; and (3) a study that consisted of interviews with caregivers and teachers of 605 young children. Results of the studies indicated that day care centers and nursery schools gave strong support to art experiences, parents of children in the centers studied showed interest in children's art activities, and there was a relationship between children's attendance in day care centers or nursery schools and their academic performance and drawing ability after they entered public schools. It is concluded that there is a critical need to broaden the base of practice in visual arts education, that the role of the visual arts specialist in the primary grades must change, and that further research concerning the role of visual learning in young children's development is needed. (PM)

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TOWARD A SENSIBLE EDUCATION: INQUIRING INTO THE ROLE OF THE VISUAL ARTS IN EARLY CHILDHOOD EDUCATION

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There is ample reason to believe that a child is a sensing entity while yet in the womb. At birth, this becomes a given. Sensory responses to phenomena become the hallmark of infancy and to any who are reasonably observant, it is quite apparent that early development is the measure of how an infant handles the information their senses provide them. For those who are especially thoughtful about what they observe, it is easy to conclude that the sensory nourishment so critical to the growth and development of each child is governed by three basic constraints--genetics, environment and values. While the first two constraints relate to the physical nature of homo sapiens and the caprice of birth, the last one is a matter of decisions made by those who provide care for a child. Although many factors related to these categorical constraints shape the maturation process we all undergo throughout life, it is those decisions "grown-ups" made for us during our early years that have had the most profound impact upon what we became--and are becoming.

While always critical to the maturation of an individual, this mix of genetic compulsions, environmental influences, and human intervention which orchestrates the growth and development of a child, ultimately determines the health, if not the survival, of the society in which it becomes a member. Consequently, as our social order becomes increasingly complex and accordingly, more conflicted, we are confronted with a demand to more fully know and understand the nature of the passage from infancy to adulthood if our educational initiatives are to better support ever expanding human and social needs. The urgency underpinning this demand for a fuller comprehension of human development becomes pronounced when the literature related to early childhood education and the practices and values of care-givers and teachers are examined.

Unfortunately, such examinations quickly reveal problems with the the kind and quality of research done in the area of early childhood education. While physio-phychological studies abound, they are usually generated by distanced authorities whose posture about the emotional, intellectual and social growth of young children seems to be inconsistent, if not in direct conflict, with much of what those who daily work with and care for children suspect, if not simply know, about their inherent sensory needs and behaviors. Examiners are quickly confronted with research agendas which promote cognitive development and thus, when they do address the visual arts--and other arts as well--they advocate the value of methodologies which focus attention on art objects and techniques. Worse yet, too many of the "over-the-counter" professional publications, always in search of greater profits, ignore disciplined research altogether as they pander to those who unwittingly and/or inappropriately seek to confirm the correctness of their use art or art-like activities to occupy places and times not required for "heavy duty" learning.

It is not difficult to fault research efforts related to the visual arts in early childhood education for their occasional arrogance toward, and regular

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irrelevance to, those who change the diapers, wipe the noses, and hug the hurts of the very young learner. Yet for all that may be lacking in the designs of current research, the literature they produce, and the practices they promote, the issue must not be whether research can serve the needs of children, but how it will do so and to what ends. Ironically, it may even discover that sense-satisfying art and art-like activities and the behaviors they reinforce, rather than being the rambling, disconnected, warm-fuzzy fun stuff disparaged by righteously disciplined educators, not only ground emotional and social growth, but are the very things that make cognitive development possible. Indeed, a recent inquiry into the role of the visual arts in early childhood education strongly suggests that a sensible education is just that--one in which developmental appropriateness properly connotes sense-appropriate practices.

An Inquiry Into the Role of the Visual Arts in Early Childhood Education. Since the early-1980's, the Chief Executives and corporate officers of Binney and Smith, Inc. have expressed the great need educators and corporate leaders have for solid evidence that formal preschool and primary grade school art experiences have a significant influence on the ability of young children to succeed in their public schooling. Their long-standing interest in both art and early childhood education led them to fund an inquiry in these areas by art educators at the University of Wisconsin-Milwaukee. It was an effort that began in January, 1988 and, in the main, concluded in Summer of 1991 even though data collected during the inquiry continues to be analyzed and interpreted.

The inquiry first reviewed documented practices and literature which seemed pertinent to the role the the visual arts played in early childhood education; it then initiated a field study of the place of art and art-like activities in ten preschool and nursery school settings in the Milwaukee urban area; and it concluded with a study which centered on focused interviews with preschool care-givers, primary grade teachers and home care-givers of 605 young children. The children represented in the final study included 100 preschool three year-olds, 50 four year-olds from private preschools and 50 four year-olds enrolled in preschools operated by the Milwaukee Public Schools (MPS), and 100 MPS students in each grade, kindergarten through third grade. With all settings and subjects, special efforts were made to maintain social, economic and racial distributions that were consistent with the demographics of a major urban area. While space limitations forestall any effort to present a comprehensive report on the inquiry, it will allow a sharing of the rationales for various aspects of the inquiry, a very brief sampling of the data collected, and a presentation of some of the insights the studies competed within the overall inquiry provoked.

The Review of Documented Practices and Literature. Several convictions focused this review. There was nearly unanimous agreement by those involved with the inquiry that profound changes must occur in the way very young children are nourished in body, mind and spirit. Specifically, there was general agreement that the preschool care given to children requires attention equal to that given them once they enter public schools. Also, all believed that art, or more accurately--art like, experiences were essential to the growth and development of all children and that they were especially critical for the very young. Consequently, all were convinced of the need to better attend to the role of the visual arts in day-care centers, nursery schools, and primary

grade schools. Furthermore, most assumed that a fairly rich source of information would be found through a literature search which would ground various studies within the inquiry.

The reviews were disquieting. Little information regarding the visual arts in early childhood education was readily available and that which was located was judged to have little substance. An ERIC search of literature of both the general field of education and the specific one of art education was handicapped by the absence of categories that coupled art education and early childhood education. This fact alone indicates a history of only marginal interest, if any at all, of both art educators and education generalists in this topic. The research that was identified had only marginal value to this inquiry in that it seemed preoccupied with the nature of creativity, cognitive responses to the formal properties of works of art, psychological and perceptual behavior, and/or preference surveys and, with rare exception, it equated early childhood with primary grade school enrollment. The little daub of literature that reported on the visual arts or art-like activities, or articulated art-centered curricula for young children, was in the form of textbooks and articles in professional journals and the popular press. Articles were essentially descriptions of what authors declared to be successful art activities and personal expositions on the aesthetic needs of young children. For the most part, they focused on the relationship of object- and media-centered activities to developmental needs--or more the case, assumptions--that are predictably generalized in educational literature. The few books specifically addressing the role of the visual arts in the education of very young children were simply expansions of early chapters of broad-based elementary education methods books. Textbooks, with few exceptions, simply presented simplistic methodologies that drew upon earlier methods books for their authority. A close look at the references of both articles and texts indicated that little, if any, quantitative or qualitative research underpinned the theories and activities they espoused.

When the role of the visual arts in early childhood education was addressed in any print form, it became obvious that art educators and education generalists did so in an essentially limited, assumptive way. Where art-related research was found, it seldom appeared in the larger context of early childhood education. It also became apparent that art educators and their general education colleagues are poorly informed, or more the case--uninformed, as to the source and nature of art or art-like experiences young children own as they enter the formalized environment of the public schools. Most significantly, both the documented practices and the literature of the two fields of art and early childhood education suggested that preschool care-givers, art educators and general educationists enjoy, at best, only limited correspondence about the role the visual arts play in the life and learning of very young children.

The General Nature of the Inquiry. In response to the findings from the reviews, this inquiry was shaped to encourage, as well contribute to, the establishment of a reasonably defensible base of information about the role of the visual arts in the physical growth and emotional/intellectual development of children in pre- and primary school settings. It's purpose then became six-fold:

- to gain insight into the nature of visual arts activities and the level of their support in day-care centers and nursery schools;

- to seek information about parental values and beliefs regarding the role the visual arts play in the schooling of young children;

- to determine if day-care center and nursery school experiences influence the academic and artistic performance of primary grade school children;

- to seek evidence that art-like behaviors/abilities contribute to the academic success of children engaged in the primary level of schooling;

- to determine if patterns can be discerned between gender and racial factors and the art-like behaviors and academic success of three to ten year old children;

- to inform recommendations for future research, pre- and public school curricula design, professional development initiatives, and course offerings in higher education.

The design for gathering, analyzing, and interpreting data called for four stages of effort. The first stage focused on the physical and instructional presence of the visual arts in day-care and nursery school settings. It also sought information about art related beliefs, values and skills of care-givers in these settings. The second stage sought facts about the age, race, and preschool experiences of the children cited in this study and information about academic/art-related perceptions of their care-givers, classroom teachers, and parents. The questions asked of these informers addressed physical attributes, academic performance, social behaviors, and drawing abilities of the children. After the data elicited through carefully structured and controlled in-person interviews and tightly focused telephone interviews were collated, the third stage produced a statistical analysis of the various behavioral and performance relationships this inquiry proposed to investigate. The final stage of the inquiry called for interpretations of the findings and the formation of conclusions issuing from them.

A sidebar qualifying three decisions related to the design of the studies within this inquiry are here called for. It is noteworthy that the term "art-like," was used in an effort to more accurately signify the kind and quality of early childhood behaviors, the environments in which they were active, the materials and objects upon which and with which they acted, and the adult perceptions, decisions and actions related to them. The use alone of the term "art" was felt to reflect a adult notion of a particular category of objects, techniques, and beliefs that was far to limiting--and often inappropriate--in describing the holistic world and developing behaviors of the very young learner.

Furthermore, it must be emphasized that this inquiry sought care-giver's perceptions of the performances and behaviors of the children studied. Several factors informed this decision:

- while various tests have been validated, and testing for cognitive abilities occurs with very young children, no such instruments were identified which would be comparable for measuring their affective, or art-like, operations. So then, the seemingly subjective perceptions of their regular care-givers provides a reasonably consistent form of measurement for both academic-like and art-like abilities, one that would make cross-referencing and comparisons more coherent and defensible;

- the subjective perceptions of care-givers are not arbitrary--they are well informed and governed by common standards of practice and performance expectations that are stressed during their training and entrenched in pre- and public school environments;

- thus, there is general agreement in the education community that preschool care-givers and public school teachers are quite able to rank the general academic and art-like abilities of their students;

- the literature and practices in art education present no validated research, nor do they articulate any circumstances, which even suggests a conflict between the behavioral or performance criteria art educators use to judge student drawing abilities and that which is used by general classroom teachers;

- except when an art specialist interviens--which is seldom, if at all--support and reward is given by classroom teachers for both the academic and art-like performances of their students. It is, then, their perceptions of such performances that determines the kind and quality of experiences children undergo and the rankings they achieve in both pre- and public school settings.

The perceptions of preschool care-givers and public school teachers, being the essential determinants of a child's ranking in all things related to those environments, were thus seen as the base-line to which any research must relate.

As to the third qualification, it must be emphasized that drawing operations were established as the base-line from which children's art-like performance was measured due to several compelling facts:

- artists overwhelmingly identify drawing as the practice central to their work, regardless of its ultimate purpose and form;

- art education literature has a long tradition of illustrating child growth and development through their drawings. Furthermore, drawing, drawing-like, and drawing related activities dominate instructional strategies promoted by text books and curriculum guides;

- drawing dominates activities promoted by art specialists and general classroom teachers. It also grounds most art-like activities commonly found in general classroom practices--i.e., map-making, diagrams, illustrations for reports;

- in self-controlled situations in which children engage in art and art-like activities, they usually elect to draw either in a direct form or in some compatible manner--i.e. with rolls of clay or painted lines.

So qualified, the data gathered from the field study of preschool sites was examined through percentage compilations, the Student Profiles solicited from care-givers and primary grade teachers and the Parent Surveys were analyzed using Chi-square to show behavioral and performance relationships with significance at a $p. < 05$ level. Concurrently, gross percentages were generated and graphed to illustrate relationships this inquiry investigated.

A Brief Summary of the Data Collected and Analyzed. While necessarily brief, this summation of data gathered through various means identifies important aspects of the findings that are consistent with the statement of purposes guiding this inquiry. They include remarks about the place of the visual arts in day-care centers and nursery schools, parental values and beliefs, and relationships pertaining to drawing ability and academic performance.

On Day-care Centers and Nursery Schools. Day-care center and nursery school personnel at all the sites investigated were very sensitive to and most positive about the roles the visual arts played in their programs, stating that half of their program time was spent in initiating and monitoring art-like activities. Both administrators and care-giving staff members were exceptionally open to information about the arts in early childhood education and sought it from a variety of sources. They were also very aware of the constraints they dealt with in supporting and enriching art and art-like experiences and environments within their profit driven enterprises. The constraints most often identified related to the unavailability of well-trained directors and staff members, the lack of relevant opportunities to upgrade their education and skills, and the absence of information about the visual arts in practices that were appropriate for and sensitive to their needs.

While day-care and nursery school personnel often mentioned budgets and facilities as constraints, it appeared that decisions about materials, space and practices were predicated upon a general insecurity or shallow conception of what should or could be done in the way of nourishing their very young charges through the visual arts. This seem especially so in that while art work and art-like activities had a high profile at all sites, they were indiscriminate in kind, quality, and presentation, suggesting a limited understanding of their properties and values. Also, furniture, equipment, and materials specifically designed or used for art-like activities were sparse in quantity and when present, often inappropriate for preschoolers' physical development levels or management skills.

Inventories of art materials found in care-rooms were telling. All care-rooms had art materials available for young children, yet access to them was adult controlled or managed close to 90% of the time. In clustering media into categories of use, it was found that, surprisingly, only 60% contained explicit drawing media such as markers, pencils and crayons while 85% held painting media, 100% had media supporting cut/glue/mixed-media activities, and only 40 % contained media for three-dimensional construction. It also appeared that sharing from room-to-room offset room-bound supplies, especially with drawing media (for example, large boxes of markers and crayons would come from a common pool of supplies). Although strongly biased toward drawing-like activities, there seemed to be adequate supplies and opportunities for children to engage in both self- and adult-directed art-like experiences at all sites.

In sum, it became apparent that day-care centers and nursery schools, with their strong support of art-like experiences, could be described as mini-art centers in promise, if not somewhat close to fact. They are governed by individuals who, while exceptionally open to professional development in the visual arts and sensitive to the inherent values in art activities, are very limited in their understanding of the critical role they play at their level of child care. In turn, this severely handicaps their care-giving skills in these preschool learning environments. Thus, day-care centers and nursery schools were found to be places where children have dramatically enhanced

opportunities and adult support in visual development. Unfortunately, these special qualities are inhibited or degraded by the lack of proper support and preparation of the adults who determine the kind and quality of experiences children have within them.

On Parental Values and Beliefs. Parent support of children's art experiences was evident in many ways. When interviewed, a large majority indicated that they took care to respond to art-like work brought home and done at home. It was significant that, of over 450 parents interviewed, 33% felt that art activities were essential in helping children learn while 44% felt that they were very important in doing so. When asked about specific benefits, 96% felt art activities made children more creative, 92% stated they made them more observant, 92% said they improved their self-confidence, and 70% believed they helped their children read and write.

When asked to list art materials they provided in their home for child use, the items identified numbered from three to seventeen. It became apparent that parents are poorly informed about art media, their properties, applications or learning values. A particularly troubling insight emerged when this data was analyzed: the number of art materials reported were far lower in minority households than those reported to exist in non-minority homes (see Table 18). The implications of this area of parental support becomes especially unsettling when its relationship to school performance is analyzed

Even though parents appeared to be unclear about the role of art media and activities in their children's growth and development, over 90% of them believed art to be an important subject in the schooling of their children. Supporting this belief was a conviction expressed by nearly 60% of the parents that not enough time is provided in school curricula for art instruction. Of even greater interest is the fact that no parent stated that too much time was given to the visual arts in pre- or public schools.

Finally, the findings in this area suggest that parents who place children in day-care centers or nursery schools have appreciably higher interests in child art and support their children's involvement in art activities and learning situations more fully than do parents who are not familiar with the nature of practices in such settings. It is further significant that positive beliefs about the value of the arts in education seem to cut across racial and economic lines--all parents, regardless of status, reported strong support for them in preschool settings and public school curricula.

On Relationships Pertaining to Drawing Ability and Academic Performance. This inquiry found several noteworthy relationships between children's attendance in day-care centers or nursery schools and their academic performance and drawing ability once they enter the public schools. For instance, it was determined that nearly two-thirds of the students primary grade school teachers rank as outstanding academic achievers have attended day-care centers or nursery schools while below average students did not in nearly reverse proportions (see Table 6). This suggests that such attendance contributes in some way to their public school success. While the nature and extent of formal preschool experiences, especially as they relate to a child's drawing and academic performance, have yet to be fully examined, the findings here reported are provocative and call

for their careful consideration in curricular relationships. These findings are even more provocative--and promising--when relationships between day-care and nursery school attendance and drawing abilities are examined.

Quite simply, attendance in day-care centers or nursery schools was found to relate to to a child's drawing ability. Whatever the duration of time spent in such settings, teachers unknowingly ranked students in a manner that suggests that attendance influenced a child's ability to draw in a most positive way (see Table 9). Of the children ranked as drawing exceptionally well for their age/grade level, 72% had formal preschool experiences while the attendance percentage decreased to 58% as students were cast in lesser ranks. In all, it appears that drawing abilities--which in turn tend to ground overall artistic behaviors--are especially nourished by the more extensive experiences available to children who attend day-care centers or nursery schools. And these findings became increasingly tantalizing as data was analyzed.

When relationships between drawing abilities and academic success were analyzed, the findings were especially interesting. They clearly show that children who are perceived to draw exceptionally well are likely to be considered outstanding or very good academic achievers--close to 80% of the primary grade school children ranked as academically advanced were also perceived by their teachers to draw exceptionally well (see Table 10). This pattern is pronounced in that none of the students ranked as being outstanding or very good academic performers were placed in drawing categories that ranked them as not being able to draw very well--or worse. These findings not only support art educators' long-held convictions that children's drawing behaviors profoundly affect their academic development, they do so in a significant way. Moreover, when considered with others appearing in this inquiry, it seems that these relationships are far stronger than the educational community has heretofore suspected.

Gender and race were also considered in the analysis of the data gathered. While gender imbalances were not found in day-care center or nursery school attendance, they were found to be consistent with the reasoning and research that claims females are apt to be more advanced in both academic and drawing achievement than their male counterparts (see Tables 12 & 13). Also, commonly held beliefs about the performances of minority students were supported in that their rankings were lower than those of non-minority students. Non-minority children were less apt to attend day-care centers or nursery schools (see Table 15) and they appeared weaker in academic ability (see Table 16) and drawing ability (see Table 17). These findings, when coupled to the insights that emerged regarding the influence of formal preschool settings on primary school performance, suggest that the kind and quality of formal preschool experiences--and especially, those related to the visual arts--has greater influence on an individual's growth and development than is currently understood.

Further, a look into home environments was taken during the inquiry. While the beliefs and values of parents were reported earlier to be consistent to an unexpected degree with what art educators and teachers want from them, and their art-related activities with their children--museum visits, discussions, showcasing art work, etc.--were as expected, the answers to questions relating to the parental provision of art and art-like media which their children could use at home provided some surprises. The most significant findings make clear that nursery school or day-care center attendance somehow impacts on the number of art or art-like materials children have for home work (see Table 19). Further,

non-Caucasian students were found to be less well supported by home-placed media (see Table 18), furthering the intrigue regarding the early developmental needs of these children. Add to these findings relationships which show that the greater the type of art materials provided them at home, the more apt children are to draw better and, concurrently, to be academic achievers at the primary grade school level. Indeed, a case begins to emerge which places art and art-like behaviors on the developmental high-ground.

Some Conclusions and Recommendations. The findings of this inquiry are not only consistent with the beliefs and values held by a large number of art educators and many of their colleagues in other fields, they advance their case. They strongly suggest that the nature of the visual arts and its relevance to human growth and development is a central issue in the care-practices embraced by parents, personnel in day-care centers and nursery schools, and primary grade school teachers. Fully considered, the data gathered and analyzed in this body of work leads to intriguing insights and provokes the following conclusions:

- to a great extent, day-care center and nursery school personnel emphasize art and art-like activities in their care for children. And it is strongly suspected that they do so to a far greater extent than do home-care givers. It then follows that overall, children who attend day-care centers and/or nursery schools draw far more than do children who know only home-care.

- children who attend day-care centers and/or nursery schools perform better in both drawing and academic tasks as they advance through the primary grades in public schools.

- the art and art-like activities engaged in by children in both home-care and formal preschool settings are strongly biased toward drawing activities which, it turn, are shown to relate to academic achievement--i.e., with young children, strong drawing abilities correspond to high academic achievement while weak drawing abilities correspond to low academic achievement.

- in that day-care center and nursery school personnel emphasize art or art-like experiences which, in turn, are strongly biased toward drawing activities, and in that children who have attended day-care centers or nursery schools usually draw more and better and appear to enjoy heightened academic success in the primary grades, it is reasonable to conclude that drawing is a significant factor in enhancing a child's primary school performance.

- of all the benefits that accrue from a young child's accumulation of home-care and/or day-care center or nursery school experiences, it is the quantity and quality of drawing activities that emerge as having a particularly positive effect on their academic advancement through the primary grades and perhaps through their schooling. <u>It may even be that they underpin it</u>!

Other conclusions accompany the reasoning just outlined. This inquiry amplifies the critical need to broaden the base of practice in visual arts education. It makes apparent that the services children need during their early years

are those that are essentially integrative in kind and quality and that their development is not well nourished by subject matter specialists who limit their work to a narrow method of practice predicated on objects and skills. In that data suggests that it is the enhancement of art and art-like behaviors that contribute to both the affective and cognitive development of children, it follows that specialized or object-centered instructional practices--the specific study of works of art and or artists and the mastery of arbitrary art-making techniques--are of limited value to them. This then places greater responsibility on home care-givers, day-care center and nursery school care-givers, and primary classroom teachers to make decisions which insure that those in their care have visual learning opportunities are well-informed, wide-ranging in kind, ample in number, and integrated--in sense-appropriate ways--with all that they experience.

Concurrently, as early childhood care-givers and educationists are given or acquire greater authority in visual arts education, the role of the visual arts specialist at the primary grade school level must change. It must become one which exhibits expertise in behavioral theory, staff development, curriculum articulation and implementation, assessment skills, a broad set of technical skills, and an even deeper understanding of subject matter that is currently evident in the essentially object-centered practices currently embraced by art teachers and increasingly mimicked by their care-giving colleagues.

This inquiry also supports the conclusion that early childhood educators must find ways to better inform parents about the benefits their children gain from art and art-like activities. Data indicates that home-support for such activities is a major factor in enhancing children's abilities to enjoy academic success in their early years of schooling. This conclusion has special implications for non-Caucasion children and those who work with them.

A final addition to the overarching conclusions reached through this inquiry highlights a need for further research related to the role visual learning plays in the growth and development of young children. Among research agendas that seem especially important and beg for intensive study are ones which address race and gender. Others must address methodolgy, developmental issues, systemic concerns, the professional development of care-givers and teachers, and the cultural forces developing children confront. Again, others must reveal the nature and degree of correspondence between the developmental patterns and school performances of children enrolled in day-care centers, nursery schools and public school systems. Also, research questions must be asked about the assumptions care-givers and teachers use to ground their practices--especially those related to drawing activities. And finally, studies related to all these requirements must be initiated in communities ranging from great cities to rural villages in all regions of the country.

Such are some of the findings, speculations and conclusions emerging from this particular inquiry. They are less a matter of statistical absolutes, irrefutable fact, or heady revelation than they are a confirmation of the profound importance of a type of compulsive human behavior that we deem to be art-like, especially as it is found in the very young. In them, I suggest the case for research is not only made, it is mandated. Very simply, the inquiry--it's purpose, the data it collected, the relationships it revealed, the insights it allowed, the questions it raised, and the provocative conclusions to which it led--marks only a beginning of the efforts that must be made to better serve the very

young and suggests a number of ways those efforts might go. Yet for all left undone or not well done, the data herein reported has strengthened corporate support for art education, informed theory and modified methodology that is employed in university courses, and provided corporate officers, public officials, public school personnel, and practitioners in higher education a compelling argument for strengthening the role of the visual arts in home-care environments, formal preschool settings, and elementary curricula.

Indeed, there is reason to anticipate the time when and places where young children will enjoy a sense-appropriate education--one which generates sensible adults.

Table

SUMMARY OF TEACHER ASSESSMENT OF ACADEMIC ABILITY TO DAY CARE CENTER/NURSERY SCHOOL ATTENDANCE

DAY CARE	ACADEMIC ABILITY				
	Out-standing	Very Good	Average	Weak	Far Below Average
Public School w/ Day Care	62%	47%	44%	37%	37%
Public School w/o Day Care	38%	53%	56%	63%	63%
TOTAL	100%	100%	100%	100%	100%

($X^2 = 7.88$ $p < .10$)

Table 3

TEACHER ASSESSMENT OF DRAWING ABILITY TO DAY CARE CENTER/NURSERY SCHOOL ATTENDANCE

DAY CARE TIME	DRAWING ABILITY				
	Exceptnly Well	Very Well	Reasnbly Well	Not Very Well	Far Below Average
<6 mos.	7%	10%	10%	14%	
>6 mos.	21%	12%	11%	8%	8%
>1 year	19%	16%	18%	15%	25%
>2 year	8%	13%	13%	8%	17%
>3 year	17%	11%	7%	10%	8%
No Day Care	28%	38%	41%	45%	42%
TOTAL	100%	100%	100%	100%	100%

($X^2 = 16.83$ $p < .66$)

Table 10

TEACHER ASSESSMENT OF DRAWING ABILITY TO ACADEMIC ABILITY

ACADEMIC ABILITY	DRAWING ABILITY				
	Exceptnly Well	Very Well	Reasnbly Well	Not Very Well	Far Below Average
Outstanding	58%	17%	9%		
Very Good	25%	47%	25%	5%	
Average	13%	29%	42%	40%	22%
Weak	2%	4%	19%	45%	17%
Far Below Average	2%	3%	5%	10%	61%
TOTAL	100%	100%	100%	100%	100%

($X^2 = 244.44$ $p < .00$)

Table 12

TEACHER ASSESSMENT OF ACADEMIC ABILITY BY GENDER

ACADEMIC ABILITY	STATUS: FEMALE	STATUS: MALE
Outstanding	18%	9%
Very Good	26%	25%
Average	33%	38%
Weak	16%	20%
Far Below Average	7%	8%
TOTAL	100%	100%

($X^2 = 8.44$ $p < .07$)

Table 13

TEACHER ASSESSMENT OF DRAWING ABILITY BY GENDER

DRAWING ABILITY	STATUS: FEMALE	STATUS: MALE
Above Average	37%	30%
Average	51%	48%
Below Average	12%	22%
TOTAL	100%	100%

($X^2 = 11.83$ $p < .00$)

Table 15

TIME SPENT IN DAY CARE CENTERS/NURSERY SCHOOLS BY MINORITY AND NON-MINORITY STUDENTS

DAY CARE TIME	STATUS: Minority	STATUS: Non Minority
<6 mos.	10%	9%
>6 mos.	9%	15%
>1 year	13%	21%
>2 year	12%	11%
>3 year	9%	10%
No Day Care	47%	34%
TOTAL	100%	100%

($X^2 = 11.39$ $p < .04$)

Table 16

TEACHER ASSESSMENT OF MINORITY/NON-MINORITY ACADEMIC ABILITY

ACADEMIC ABILITY	STATUS: Minority	STATUS: Non-Minority
Outstanding	8%	22%
Very Good	23%	28%
Average	35%	36%
Weak	23%	11%
Far Below Average	11%	3%
TOTAL	100%	100%

($X^2 = 34.285$ $p < .00$)

Table 17

TEACHER ASSESSMENT OF MINORITY/NON-MINORITY STUDENT DRAWING ABILITY

DRAWING ABILITY	STATUS: Minority	STATUS: Non-Minority
Exceptionally Well	6%	14%
Very Well	23%	24%
Reasonably Well	50%	50%
Not Very Well	16%	11%
Far Below Average	5%	1%
TOTAL	100%	100%

($X^2 = 18.61$ $p < .00$)

Table 10

NUMBER OF ART MATERIALS REPORTED IN MINORITY AND NON-MINORITY HOMES

NUMBER OF MATERIALS	STATUS: Minority	STATUS: Non-Minority
0 to 3	40%	8%
4 to 5	29%	29%
6 to 8	20%	34%
More Than 8	11%	29%
TOTAL	100%	100%

($x^2 = 75.70$ $p. < .00$)

Table 19

SUMMARY OF NUMBER OF ART MATERIALS IN THE HOME AS INFLUENCED BY DAY CARE CENTER / NURSERY SCHOOL ATTENDANCE TIME

DAY CARE	NUMBER OF MATERIALS			
	0 to 3	4 to 5	6 to 8	more than 8
Day Care	39%	53%	70%	82%
No Day Care	61%	47%	30%	18%
TOTAL	100%	100%	100%	100%

($x^2 = 55.31$ $p < .00$)